

ABSTRACT OF THE DISCLOSURE

A semiconductor memory encompasses a memory cell matrix, which embraces device isolation films running along the
5 column-direction, arranged alternatively between the cell columns; first conductive layers having top surfaces lower than the device isolation films; inter-electrode dielectrics arranged on the corresponding first conductive layers, the
inter-electrode dielectric has a dielectric constant
10 larger than that of silicon oxide; and second conductive layers running along the row-direction, each of the second conductive layers arranged on the inter-electrode dielectric and the device isolation films so that the second conductive layer can be shared by the memory cell transistors arranged along the
15 row-direction belonging to different cell columns.